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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,206	01/26/2004	Minoru Nakamura	018775-891	6431

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/763,206

Applicant(s)

NAKAMURA ET AL.

Examiner

Christopher RoDee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-19 is/are rejected.
- 7) ☒ Claim(s) 12 is/are objected to.
- 8) ☒ Claim(s) 1-22 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/26/04 7/13/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-20, drawn to a toner, classified in class 430, subclass 108.4.
- II. Claims 21 and 22, drawn to a non-contact heat fixing method, classified in class 430, subclass 124.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in another and materially different process, such as a contact fixing of the toner image produced by an ionographic method. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with George Lesmes on 5 December 2005 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-20. Affirmation of this election must be made by applicant in replying to this Office action. Claim 21 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the

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currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-5, 7-9, 15, and 17-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Daimon *et al.* in US Patent Application Publication 2003/0190545 considered with Yamashita *et al.* in US Patent Application Publication 2003/0027066.

Daimon's exemplified Toner 2 appears to be produced in the same manner as Toner 1 where a crystalline polyester resin, phthalocyanine pigment and wax release agent are processed to produce toner particles. Further filtering and washing is conducted in Toner 2's manufacture to obtain particles with a volume-average particle diameter of 7.8 μm and a number-average particle diameter of 7.3 μm (¶¶ [0391] – [0401]). As seen in Table 62 (p. 76), Toner 2 has a ratio of loss modulus (G_N) to storage modulus (G_L) at 120 °C of 300/60, which, of course, equals 5. The colorant in this toner appears to be a phthalocyanine compound, noting Toner 2's apparent reliance on Toner 1's components. Phthalocyanines are disclosed in the instant specification as effective infrared absorbing agents (see spec. p. 21, ¶ [0049]). The

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phthalocyanine meets two requirements in the instant claims (i.e., colorant and infrared absorbing agent). The toner is mixed with 1 weight % hydrophobic silica identified by the tradename R972, which has an average diameter of 16 nm (see Yamashita ¶¶ [0162], [0177]). Strontium titanate is a specifically disclosed additive (¶ [0282]). The polyester resins for the toner are produced by an emulsion polymerization method followed by aggregation with the other toner components, which is also disclosed as effective by the instant specification (spec. ¶ [0057] – [0059]). Exemplified polyester resin (1) has Mw of 8500 while exemplified Polyester Resin (2) has Mw of 8800 (¶ [0375], [0380]). The toner preferably has a spherical shape (¶ [0319]). This indicates an average degree of roundness of near 1.

Daimon does not specify that Toner 2 is non-contact heat fixing but because the toner has the requisite modulus properties and an infrared absorbing agent it appears that the toner inherently is non-contact heat fixing. With respect to claims 18 and 19, although the toner of Daimon is formed by an aggregation and fusion method, it appears to meet the product-by-process limitations of claim 18 because the specification indicates emulsion polymerization and pulverization methods are alternatives for each other (¶ [0055]). Consequently, it appears that the toner produced by the reference has the same properties as that produced by claim 18.

Claims 1-11 and 13-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Mikuriya *et al.* in US Patent Application Publication 2004/0142263.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the

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inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Mikuriya produces a toner from polyester resin, an IR absorbing agent, and a colorant in the Examples. The polyester is produced in the same manner, from the same monomers, and has the same characteristics as those of the instant specification (compare the Examples and Table 1 in Mikuriya with ¶ [0072] and Tables 1 and 2 in the instant specification). Mixtures of polyester resins are used in the toners (see Examples). The IR absorbing agent in Mikuriya's disclosure (¶ [0108]-[0112]) appears to be the same or substantially the same as used in the instant specification (¶ [0073]-[0076]). Both the instant specification and the reference also produce similar ester waxes with first and second ester waxes as preferred (Mikuriya ¶ [0098]-[0107]; specification ¶ [0077]-[0081]). The exemplified toner particles produced from these components are mixed with strontium titanate, titanium oxide, and silica (¶ [0117]). The reference does not specify the ratio of loss modulus to storage modulus claimed but because the toners are produced from the same or substantially the same polyesters, waxes, colorants, and IR absorbing agents, it appears that the toners of Mikuriya would inherently have the claimed ratio.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 7-9, 13, 15, and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daimon *et al.* in US Patent Application Publication 2003/0190545 in view of Yamashita *et al.* in US Patent Application Publication 2003/0027066, and further in view of Fox *et al.* in US Patent 5,080,995.

Daimon and Yamashita were described above for claims 1, 3-5, 7-9, 15, and 17-20 with respect to the section 102 rejection. In the event the claims require separate components as the colorant and the infrared absorbing agent, Daimon teaches that combinations of pigments may be used in the reference's toner as the colorant (§ [0276]). The total amount of the colorant is from 1 to 30 parts by weight based on 100 parts of the binder resin (§ [0278]). Fox shows that the PV Fast Blue phthalocyanine pigment in Daimon is known to also have cyan coloring properties (see Fox's Example XII). Yamashita is also relied upon for its disclosure of the particle diameter of the silica in Diamon.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a combination of colorants including the exemplified phthalocyanine in Diamon's examples to produce a cyan toner because Diamond teaches the production of cyan toners in the examples and teaches that a combination of colorants can be used to give the specifically desired color for a toner. The artisan would thus have found it obvious to use a combination of colorants, including the phthalocyanine which is also disclosed by the specification as having IR absorption, to give a specific cyan color to the toner. The artisan would have found it obvious to optimize the amounts of the colorants to produce the desired color toner, such as where a total colorant amount of 1 part by weight is achieved. The artisan

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would also have found it obvious to optimize the storage modulus in Daimon at 120 °C because this is taught as a result effecting variable to obtain proper toner transfer (Abstract; ¶ [0334] - [0337]).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Daimon *et al.* in US Patent Application Publication 2003/0190545 in view of Yamashita *et al.* in US Patent Application Publication 2003/0027066, and further in view of Fox *et al.* in US Patent 5,080,995 as applied to claims 1-5, 7-9, 13, 15, and 17-20 above, and further in view of Shirose *et al.* in US Patent 4,652,509.

Daimon, Yamashita, and Fox were described above. Daimon teaches the addition of inorganic fine particles to enhance fluidity of toner, Both silica and titanium oxide are disclosed. Silica is exemplified, as noted above.

Shirose teaches that a combination of silica and titanium oxide greatly improves the fluidity of toner (Abstract; col. 2, l. 13-24; Example IV) and aids in transfer characteristics (col. 2, l. 1-10).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a combination of silica and titanium oxide as the fluidity agents in Daimon because Daimon teaches fluidity agents are added to the reference toner and mentions both silica and titanium oxide as effective while Shirose teaches a combination of these components is particularly effective to aid fluidity and transfer characteristics.

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Allowable Subject Matter

Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The CRC Handbook is cited to show the wavelength for the infrared spectrum. The unapplied art is cited of interest.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdr
6 December 2005



CHRISTOPHER RODEE
PRIMARY EXAMINER